

AMENDMENTS
In the Claims

- 1 1.(**withdrawn**) A method of manufacturing an oriented film comprising the steps of:
- 2 forming a blend including at least two polymers P1 and P2, where both are at least partly
3 crystalline at a temperature below 100°C where the polymer P1 has a mechanically determined
4 melting point which is at least 20°C higher than a mechanically determined melting point of the
5 polymer P2,
- 6 extruding the blend to form a film and
- 7 stretching the film to form a stretched film, where the polymers form separate phases in the
8 stretched film, and the polymer P2 in its unoriented state at 20°C exhibits a coefficient of elasticity
9 (E1) which is at least 15% lower than (E2) of the polymer P1, and stretched film comprises a
10 polymer alloy including fibrils of the polymer P1 surrounded by the polymer P2, where each fibril
11 extends mainly in one direction and has a mean of a width and a thickness that is less than or equal
12 to about 5µm, and wherein the stretching step includes the steps of after the extruding steps drawing-
13 down the film while both components are at least partially molten, and at a later stage, hot stretching
14 the film while the polymer P1 is in a solid state and the polymer P2 is molten or semimolten to
15 selectively orient the polymer P1, such that an elongation at break in the direction of this hot
16 stretching, determined by slow drawing at 20°C, is at least 25%, the hot stretching being carried out
17 by drawing the film over a frictionally withholding device.
- 1 2.(**withdrawn**) The method according to claim 1, wherein the stretching step further includes
2 the step of, after the hot stretching, further stretching the film while both components P1 and P2 are
3 in their solid state, in such a manner that the product film has an elongation at break at 20°C (by
4 slow drawing) of at least 25% in any direction.
- 1 3.(**withdrawn**) The method according to claim 1, wherein the fibrils are flat having an
2 average thickness of less than or equal to about 1µm and an average width of less than or equal to
3 about 5µm.
- 1 4.(**withdrawn**) The method according to claim 1, wherein in order to reduce cross dimensions
2 of the fibrils, the molten blend during extrusion is passed through at least one screen or grid located

3 in a chamber immediately upstream of an exit orifice of an extrusion device, the chamber having a
4 gap higher than a gap of the exit orifice.

1 5.(withdrawn) The method according to claim 4, wherein each of the grids has walls
2 extending several millimeters in the direction of the flow of the molten blend.

1 6.(withdrawn) The method according to claim 5, wherein the major walls in each such grid
2 are slanted so that each forms an angle between about 10° to about 70° to the major surface of the
3 flow entering the grid.

1 7.(withdrawn) The method according to claim 6, wherein the slanting and the wall thickness
2 and distances between the walls are such that in a longitudinal section of the device perpendicular
3 to major surface of the flow as this enters the grid, there are at least four such walls.

1 8.(withdrawn) The method according to claim 6, wherein at least two grids, where in the such
2 walls of one grid are slanted in the opposite direction to the walls of the other grid.

1 9.(withdrawn) The method according to claim 1, wherein in succession to the extrusion and
2 stretching of the blend while both the polymer P1 and the polymer P2 are molten, the film is first
3 cooled to solidify the polymer P1 and the polymer P2, thereafter the film is heated in air-lubricated
4 engagement with a heating body of controlled temperature to melt or at least partially melt the
5 polymer P2, while keeping the polymer P1 solid, and immediate thereafter, while the polymer P2
6 still is at least partially molten and the polymer P1 is solid, the film is subjected to the selective
7 orientation of the polymer P1 and subsequent solidification of the polymer P2.

1 10.(withdrawn) The method according to claim 1, wherein the frictional is withholding device
2 comprises one or more bars with rounded edges over which the film is dragged while following an
3 adjustable arc of the bar edge, and the bar or bars are maintained at a temperature which prevents
4 the film from sticking to the edge or edges, and the length of travel in contact with the edge or edges
5 is adapted to prevent the polymer P2 wholly solidifying.

1 11.(withdrawn) The method according to claim 9, wherein at least the process steps from and
2 including extrusion to and including the solidification of the polymer P2 are carried out in-line,
3 whereby the line also comprises a hold-back device acting between the cooling and the subsequent
4 heating.

1 12.(withdrawn) The method according to claim 11, wherein the film is extruded as a flat film,
2 and the controlled hold-back between cooling and subsequent heating is established by a roller
3 arrangement, which also may supply the cooling.

1 13.(withdrawn) The method according to claim 11, wherein the film is formed and treated in
2 tubular form from extrusion and at least to the final solidification of the polymer P2, whereby the
3 controlled hold-back between cooling and subsequent heating is established by one or more circular
4 rings with rounded edges over which the film is dragged while following an adjustable arc of the
5 rounded edge, and the ring or rings are maintained at a temperature which prevents the film from
6 sticking to the edge or edges.

1 14.(withdrawn) The method according to claim 11, wherein the heating is carried out with the
2 film in air-lubricated engagement with two heating bodies of which is provided one on each side of
3 the film.

1 15.(withdrawn) The method according to claim 1, wherein the film immediately after the
2 extrusion is cooled to solidification of the polymer P1 while the polymer P2 is kept molten or
3 semimolten, and further in immediate succession, the selective orientation of the polymer P1 over
4 a frictionally withholding device is carried out with the polymers in such states.

1 16.(withdrawn) The method according to claim 15, wherein the frictionally withholding device
2 comprises one or more bars with rounded edges over which the film is dragged while following an
3 adjustable bow-length of the edge, and the bar or bars and the length of travel in contact with the
4 edge or edges is adapted to prevent the polymer P2 wholly solidifying.

1 17.(withdrawn) The method according to claim 15, wherein the cooling to the state is carried

2 out by air-lubricated engagement of the film with a cooling body of controlled temperature.

1 18.(withdrawn) The method according to claim 17, wherein the cooling is carried out with the
2 film in air-lubricated engagement with two heating bodies, one on each side of the film, the spacing
3 between the heating bodies preferably being adjustable.

1 19.(withdrawn) The method according to claim 2, wherein the further stretching is carried out
2 in the same longitudinal direction as the hot stretching of the film.

1 20.(withdrawn) The method according to claim 19, wherein by a suitable selection of the
2 conditions for the different stretching processes, and optionally by addition of a finely dispersed
3 fracture-promoting material to the extruded blend, the longitudinal orientation after full solidification
4 is adapted to produce locations of rupture of the polymer P1 fibrils and in connection with such
5 rupture extra orientation of the polymer P2 in and around the locations, the locations being generally
6 extended in a linear fashion at an angle to the direction of orientation.

1 21.(withdrawn) The method according to claim 19, wherein the further stretching is carried
2 out at around 50°C or at a lower temperature.

1 22.(withdrawn) The method according to claim 19, wherein in succession to the further
2 stretching, transverse stretching is carried out while the polymer P1 and the polymer P2 are solid.

1 23.(withdrawn) The method according to claim 22, wherein the further stretching is carried
2 out under allowance of a simultaneous longitudinal contraction, where the longitudinal contraction
3 is achieved by forming transverse pleats in the film prior to the transverse stretching, and the latter
4 is carried out by means of a tenter frame.

1 24.(withdrawn) The method according to claim 2, wherein the further stretching is carried out
2 transversely of the preceding longitudinal orientation of the film.

1 25.(withdrawn) The method according to claim 24, wherein the film is allowed to shrink in

2 said longitudinal direction, where the shrinking is achieved by forming transverse pleats in the film
3 prior to the transverse stretching, and the latter is carried out by means of a tenter frame.

1 26.(withdrawn) The method according to claim 1, wherein a minor surface layer is coextruded
2 on at least one side of the blend to enhance bonding properties and/or modify frictional properties
3 of the film.

1 27.(withdrawn) The method according to claim 1, wherein the polymer P1 comprises
2 polypropylene polyamide or polyethylene terephthalate, and the polymer P2 comprises a propylene
3 copolymer or polyethylene.

1 28.(withdrawn) The method according to claim 27, wherein the polypropylene is a crystalline
2 copolymer of propylene.

1 29.(withdrawn) The method according to claim 27, wherein the polyethylene is a crystalline
2 copolymer of ethylene.

1 30.(withdrawn) The method according to claim 1, wherein after the end of the mentioned
2 steps, the film, which exhibits a uniaxial or unbalanced orientation, is laminated to one or more
3 similarly or differently manufactured films of uniaxial or unbalanced biaxial orientation, whereby
4 the films are arranged so that their main directions of orientation cross each other.

1 31.(withdrawn) The method according to claim 1, wherein additionally to the mentioned steps
2 the film is cut into narrow longitudinally oriented tapes.

1 32.(withdrawn) A method of forming a film or sheet of thermoplastic polymer alloy in which
2 there is formed an intimate blend of polymer material P1' and polymer material P2', the blend is
3 extruded through a die and the extruded film is stretched after extrusion in which the flow passage
4 through the die comprises an exit orifice having an exit gap, wherein upstream from the exit orifice
5 there is provided a grid chamber comprising one or more grids through which the blend passes, the
6 grid or grids having at least 4 (in the longitudinal sections perpendicular to the main surfaces to the

7 flow) closely spaced lamellae having walls extending several millimeters in the direction of the flow,
8 and, between the lamellae apertures of a size selected to reduce the average size of the dispersed
9 phase of polymer material P1' or polymer material P2' in the blend, the grid or grids being located
10 at a position in the chamber where the gap is wider than the exit gap, the grid chamber further
11 comprising a gap reduction portion between the screen and the die exit wherein the gap through
12 which the blend flows is reduced at least part way to the gap of the die exit.

1 33.(withdrawn) The method according to claim 32, wherein the lamellae in each such grid are
2 slanted so that each forms an angle between about 10 to about 70° to the major surface of the blend
3 flow entering the grid.

1 34.(withdrawn) The method according to claim 33, wherein the major lamellae in each such
2 grid are substantially planar.

1 35.(withdrawn) The method according to claim 33, wherein the lamellae are substantially
2 parallel to the flow as it enters the grip.

1 36.(withdrawn) The method according to claim 34, wherein at least two such grids which
2 mutually are oppositely slanted in relation to the direction of the blend flow entering the grid.

1 37.(withdrawn) The method according to claim 32, wherein there is coextruded a surface layer
2 at least on one side of the blend flow.

1 38.(withdrawn) The method according to claim 32, wherein polymer material P1' and polymer
2 material P2' are incompatible to such an extent that they exist as separate phases in the final film,
3 but are compatibilized either by use of an alloying agent or mechanically by sufficient mixing and
4 attenuation, and polymer material P2' in its unoriented state at 20°C exhibits a coefficient of
5 elasticity (E1) which is at least 15% lower than a coefficient of elasticity (E2) of polymer material
6 P1', and further by adaptions of rheological conditions, percentages of the components, and
7 conditions for mixing and extruding a dispersion of microscopically fine fibrils or fibril network of
8 polymer material P1' surrounded by polymer material P2' is formed in the alloy, whereby each fibril

9 extends mainly in one direction and has a thickness around or lower than 5 μ m, and width at least 5
10 times its thickness, and further where the film is stretched after at least polymer material P1' has been
11 solidified.

1 39.(withdrawn) The method according to claim 38, wherein the stretching is transverse to the
2 direction of the fibrils.

1 40.(withdrawn) The method according to claim 39, wherein the film is allowed to contract in
2 the direction of the fibrils during the stretching, where the contractions are introduced by a preceding
3 fine transverse pleating of the film.

1 41.(withdrawn) The method according to claim 40, wherein the step of stretching transverse
2 to the direction of the fibrils is preceded by stretching in the direction of the fibrils while the latter
3 are solid.

1 42.(withdrawn) The method according to claim 38, wherein polymer material P1' comprises
2 polypropylene, polyamide or polyethylene terephthalate, and polymer material P2' comprises a
3 propylene copolymer or polyethylene.

1 43.(withdrawn) The method according to claim 42, wherein the polypropylene is a crystalline
2 copolymer of propylene.

1 44.(withdrawn) The method according to claim 42, wherein the polyethylene is a copolymer
2 of ethylene.

1 45.(withdrawn) The method according to claim 38, wherein the film is given a strong uniaxial
2 or unbalanced biaxial orientation, and subsequently the film is laminated to one or more similarly
3 or differently manufactured film of uniaxial or unbalanced biaxial orientation, whereby the films are
4 arranged so that their main directions of orientation cross each other.

1 46.(withdrawn) The method according to claim 38, wherein subsequently the film is cut into

2 narrow longitudinally oriented tapes.

1 47.(**withdrawn**) The method according to claim 32, wherein polymer material P1' is chosen to
2 exhibit desirable barrier properties, and polymer material P1' and polymer material P2' are
3 incompatible to such an extent that they exist as separate phases in the final film, but are
4 compatibilized either by use of an alloying agent or mechanically by sufficient mixing and extension,
5 and further by adaptions of rheological conditions, percentages of the components, and conditions
6 for mixing and attenuation a dispersion of microscopically fine fibrils or fibril network of polymer
7 material P1' surrounded by polymer material P2' is formed in the alloy as whereby each fibril extends
8 in one main direction, has a thickness around or lower than 5 μ m and has a width at least 5 times its
9 thickness.

1 48.(**withdrawn**) The method according to claim 32, wherein polymer material P1' and polymer
2 material P2' are incompatible to such an extent that they exist as separate phases in the final film,
3 but are compatibilized either by use of an alloying agent or mechanically by sufficient mixing and
4 extrusion, and further by adaptions of rheological conditions, percentages of the components, and
5 conditions for mixing and attenuation a dispersion of microscopically fine fibrils or fibril network
6 of polymer material P1' surrounded by polymer material P2' is formed in the alloy, whereby each
7 fibril extends mainly in one direction, has a thickness around or lower than 5 μ m, where there is
8 added a volatile expansion agent prior to or during the extrusion, which agent is soluble in polymer
9 material P2' but generally not in polymer material P1', whereby expansion is takes place after
10 extrusion.

1 49.(**currently amended**) An extruded oriented film ~~which is in the form of a crosslaminate, in~~
2 ~~which it is laminated to another oriented film, whereby the main directions of orientation cross each~~
3 ~~other, or is in the form of a rope, twine or woven-tape products, the film comprising a layer of~~
4 ~~comprising a polymer~~ alloy of at least two polymers P1 and P2, ~~which both where the polymers P1~~
5 ~~and P2~~ are at least partly crystalline at temperatures less than 100°C, wherein the polymer P2 in its
6 unoriented state at 20°C exhibits a coefficient of elasticity (E1) which is at least 15% lower than a
7 coefficient of elasticity (E2) of the polymer P1, and the alloy comprises a dispersion of
8 microscopically fine fibrils ~~or fibril network~~ of the polymer P1 surrounded by the polymer P2,

9 wherein each fibril extends mainly substantially in one direction and has a ~~width and a thickness~~
10 ~~wherein a mean of the width and the a mean thickness is that are less than or equal to about 5µm,~~
11 and wherein

- 12 a) ~~the polymer P1 fibrils are flat and substantially parallel with the main surfaces of the~~
13 ~~film, the fibrils have a thicknesses less than or equal to about 1µm and the fibrils~~
14 ~~have a width at least 5 times their thickness, and/or~~
15 b) ~~the oriented film exhibits locations of rupture of the polymer P1 fibrils, where the~~
16 ~~fibrils are broken and where the, locations extend in a generally linear fashion across~~
17 ~~the film at an angle to the direction of orientation.~~

1 50.(**currently amended**) The film according to claim 49, wherein further comprising a minor
2 coextruded surface layer on at least one side of the alloy layer to enhance bonding properties and/or
3 modify frictional properties of the film.

1 51.(**currently amended**) The film according to claim 50, wherein the polymer P1 comprises
2 polypropylene, polyamide or polyethylene terephthalate, and the polymer P2 comprises a propylene
3 copolymer, or polyethylene.

1 52.(**currently amended**) The film according to claim 51, wherein the polypropylene is comprises
2 a crystalline copolymer of propylene.

1 53.(**currently amended**) The film according to claim 51, wherein the polyethylene is comprises
2 a copolymer of ethylene.

1 54.(**currently amended**) The film according to claim 49, wherein the film is in the form is of
2 a crosslaminate.

1 55.(**currently amended**) The film according to claim 49, wherein the film is in the form is of
2 a rope, twine or woven-tape products.

1 56.(**currently amended**) An extruded film comprising a layer of including an alloy of

2 comprising at least two polymers P1 and P2 and further comprising, in longitudinal cross-section
3 perpendicular to the main surfaces of the film, at least 4 die lines, which both where the polymers
4 P1 and P2 are at least partly crystalline at temperatures under 100 °C, and are incompatible to such
5 an extent that they exist as and form separate phases in the layer final film but are compatibilized
6 sufficiently for practical purposes, where the alloy comprises comprising a dispersion of
7 microscopically fine fibrils or fibril network of the polymer P1 surrounded by the polymer P2,
8 wherein each the fibrils extends mainly substantially in one direction, where the fibrils of the
9 polymer P1 are flat, and generally are substantially parallel with the main surfaces of the film, have
10 a with thicknesses generally around or lower than less than or equal to about 1 μm, and have a width
11 at least 5 times the thickness, and where the polymer P1 is chosen to exhibit has desirable barrier
12 properties and further comprising, in longitudinal cross-section perpendicular to the main surfaces
13 of the film, at least 4 die lines.

1 57.(previously presented) The film according to claim 56, further comprising a minor coextruded
2 surface layer on at least one side of the alloy layer to enhance bonding properties and/or modify its
3 frictional properties.

1 58.(previously presented) The film according to claim 56, wherein the polymer P1 comprising
2 EVOH, vinylidene chloride polymers or polyamide.

1 59.(previously presented) The film according to claim 56, wherein the film is uniaxially or
2 biaxially oriented and is laminated to another oriented film, whereby the main directions of
3 orientation cross each other.

1 60.(currently amended) A cellular expanded film made by extrusion in the presence of an
2 expansion agent, where the film is made from comprises an alloy of at least two polymers P1 and
3 P2, which both where the polymers are at least partly crystalline at temperatures under 100 °C, and
4 where the alloy comprising a dispersion of microscopically fine fibrils or a fibril network of the
5 polymer P1 surrounded by the polymer P2, where each the fibrils extends mainly substantially in one
6 direction, and is are flat, each fibril has have a thicknesses less than or equal to about 1 μm, and each
7 fibril has have a width at least 5 times its thickness.

1 61.(previously presented) The film according to claim 60, wherein the film is uniaxially or
2 biaxially oriented and is laminated to another film, where the main directions of orientation cross
3 each other.

1 62.(previously presented) The film according to claim 60, wherein the film is in the form of rope,
2 twine or woven-tape products.

1 63.(previously presented) The film according to claim 60, wherein the film is in the form of split
2 fibre products.

1 64.(previously presented) The film according to claim 60, wherein the polymer P2 in its
2 unoriented state at 20°C exhibits a coefficient of elasticity (E1) which is at least 15% lower than ~~an~~
3 a coefficient of elasticity (E2) of the polymer P1.

1 65.(currently amended) The film according to claim 56, wherein the polymer P2 is comprises
2 a copolymer of propylene or polyethylene.

1 66.(previously presented) The film according to claim 56, wherein, in the alloy, a weight
2 proportion of the polymer P1 is in the range 5 to 75 %.

1 67.(withdrawn) An apparatus for extruding a thermoplastic material comprising a die having
2 an exit orifice through which the molten material flows and stretching means for stretching the
3 material after it is extruded by at least two steps, in the first of which the material is stretched
4 longitudinally by first stretching means whilst at a high temperature, and in the second of which the
5 material is stretched longitudinally by second stretching means at a lower temperature, comprising
6 also means for cooling the extruded material between the two stretching means, the cooling means
7 comprising a frictional device arranged for contact with the extruded material, and further
8 comprising stretching means downstream from the second stretching means, and additional cooling
9 means between the second stretching means and the further stretching means.

1 **68.(withdrawn)** The apparatus according to claim 67, wherein the frictional device is provided
2 with holes or is made of microporous metal for inwards or outwards passage of air whereby over and
3 under pressure of air is provided to control the friction between the device and the material.

1 **69.(withdrawn)** The apparatus according to claim 67, further comprising a shock cooling part
2 upstream of the frictional device past which the extruded flow passes and which is cooled by a flow
3 of cooling medium through its interior.

1 **70.(withdrawn)** The apparatus according to claim 69, further comprising a heating means
2 between the shock cooling means and the frictional device, for controlled heating of the material.

1 **71.(withdrawn)** The apparatus according to claim 70, wherein the heating means comprises
2 a pair of fixed heating blocks arranged on opposite sides of the extruded material.

1 **72.(withdrawn)** The apparatus according to claim 67, wherein the die has a grid chamber
2 upstream from the exit orifice comprising one or more grids through which the extrudate passes, the
3 grid or grids being located at a position in the chamber where the gap is wider than the exit orifice
4 gap, the grid chamber further comprising a gap reduction portion between the grid or grids and the
5 exit orifice wherein the gap is reduced at least part way to the gap of the exit orifice.

1 **73.(withdrawn)** An apparatus for extruding a thermoplastic material comprising a die having
2 an exit orifice through which the molten material flows and stretching means for stretching the
3 material after it is extruded by at least two steps, in the first of which the material is stretched
4 longitudinally by a first stretching means whilst at a high temperature, and in the second of which
5 the material is stretched longitudinally by a second stretching means at a lower temperature,
6 comprising also means for cooling the extruded material between the two stretching means, the
7 cooling means comprising a frictional device arranged for contact with the extruded material, where
8 there is provided a grid chamber upstream from the exit orifice comprising one or more grids through
9 which the extrudate passes, the grid or grids being located at a position in the chamber where the gap
10 is wider than the exit orifice gap, the grid chamber further comprising a gap reduction portion
11 between the grid or grids and the die exit wherein the gap is reduced at least part way to the gap of

12 the exit orifice.

1 74.(withdrawn) The apparatus according to claim 72, wherein each such grid has walls
2 extending several mm in the direction of the flow.

1 75.(withdrawn) The apparatus according to claim 73, wherein the major walls in each such
2 grid are substantially planar and are slanted so that each forms an angle between about 10 to 70° to
3 the major surface of the extrudate flow entering the grid.

1 76.(withdrawn) The apparatus according to claim 75, wherein the angle and the wall thickness
2 and distances between the walls are such that, in a longitudinal section of the die perpendicular to
3 the main surfaces of the extrudate flow as this enters the grid, there are at least four such walls.

1 77.(withdrawn) The apparatus according to claim 75, further comprising at least two such
2 grids which are slanted in opposite directions to one another.

1 78.(withdrawn) The apparatus according to claim 67, further comprising means for
2 coextruding a surface layer at least on one side of the extrudate.

1 79.(withdrawn) The apparatus according to claim 67, further comprising means for transverse
2 stretching of the extruded film downstream of the second stretching means.

1 80.(withdrawn) The apparatus according to claim 79, wherein upstream of the transverse
2 stretching means there is a longitudinal pleating device.

1 81.(withdrawn) The apparatus according to claim 80, wherein the transverse stretching means
2 comprises a tenterframe including an oven.

1 82.(withdrawn) The apparatus according to claim 81, wherein the oven comprises fixed heated
2 blocks arranged on opposite sides of the material, provided with a heating means.

1 83.(withdrawn) The apparatus according to claim 82, further comprising a cooling block on
2 at least one side of the material, downstream of the heating blocks, the cooling block being provided
3 with a channel for passage of cooling air.

1 84.(withdrawn) The apparatus according to claim 82, wherein the heating blocks are formed
2 of microporous metal in fluid contact with channels for passage of heated air, whereby heated air
3 exits the blocks from the surfaces facing the material passing therebetween, to lubricate passage of
4 the material therebetween.

1 85.(withdrawn) The apparatus according to claim 67, wherein the further stretching means is
2 a longitudinal stretching means.

1 86.(withdrawn) The apparatus according to claim 85, including a laminating station, in which
2 a second sheet material is laminated to the extrudate.

1 87.(withdrawn) The apparatus according to claim 86, wherein the extrusion die is a circular
2 die for extruding a tube of material, and which further comprises helical cutting means downstream
3 of the second stretching station, and upstream of the laminating station, in which the tube of material
4 is helically cut and two plies of the extruded material are laminated to one another with their main
5 directions of orientation arranged at an angle to one another.

1 88.(withdrawn) The apparatus according to claim 67, wherein the extrusion die is a flat die.

1 89.(withdrawn) An apparatus for extruding a thermoplastic material comprising a die having
2 an exit orifice through which the molten material flows and stretching means for stretching the
3 material after it is extruded, where the die has a grid chamber upstream from the exit orifice
4 comprising one or more grids through which the extrudate passes, the grid or grids being located at
5 a position in the chamber where the gap is wider than the exit orifice gap, the grid chamber further
6 comprising a gap reduction portion between the grid or grids and the exit orifice wherein the gap is
7 reduced at least part way to the gap of the exit orifice and the or each grip comprises at least 4 (in
8 the longitudinal sections perpendicular to the main surfaces of the flow) closely spaced lamellae

9 having walls extending several mm in the direction of flow of molten material and, between the
10 lamellae having apertures through which the molten material can flow.

1 90.(**withdrawn**) The apparatus according to claim 89, wherein the lamellae in each such grid
2 are slanted so that each forms an angle between about 10 to 70° to the major surface of the extrudate
3 flow entering the grid.

1 91.(**withdrawn**) The apparatus according to claim 90, wherein the lamellae are substantially
2 planar and substantially parallel to the flow as it enters the grid.

1 92.(**withdrawn**) The apparatus according to claim 90, further comprising at least two such
2 grids which are slanted in opposite directions to one another.

1 93.(**withdrawn**) The apparatus according to claim 89, further comprising means for
2 coextruding a surface layer at least on one side of the extudate.

1 94.(**withdrawn**) The apparatus according to claim 89, wherein the extrusion die is a circular
2 die for extruding a tube of material.

1 95.(**withdrawn**) The apparatus according to claim 89, wherein the extrusion die is a flat die.

1 96.(**currently amended**) The film according to claim 49, wherein the width of the fibrils are is
2 at least 10 times the thickness.

97.(**canceled**)

1 98.(**new**) An extruded oriented film comprising:
2 a layer including:
3 a polymer alloy comprising:
4 a dispersion of microscopically fine fibrils of a polymer P1 surrounded by a
5 polymer P2,
6 where the fibrils extend substantially in one direction, have a thickness less

7 than or equal to about 1 μ m, have a width at least 5 times the thickness, are
8 flat, and are substantially parallel with the main surfaces of the film, and
9 where the polymer P1 and the polymer P2 are different and are at least partly
10 crystalline at temperatures less than 100°C, and
11 where the polymer P2, in its unoriented state at 20°C, exhibits a coefficient
12 of elasticity (E1) which is at least 15% lower than a coefficient of elasticity
13 (E2) of the polymer P1.

1 99.(new) The film according to claim 98, wherein the film further comprises a minor
2 coextruded surface layer on at least one side of the alloy layer to enhance bonding properties and/or
3 modify frictional properties of the film.

1 100.(new) The film according to claim 99, wherein the polymer P1 comprises polypropylene,
2 polyamide or polyethylene terephthalate, and the polymer P2 comprises a propylene copolymer, or
3 polyethylene.

1 101.(new) The film according to claim 100, wherein the polypropylene comprises a crystalline
2 copolymer of propylene.

1 102.(new) The film according to claim 100, wherein the polyethylene comprises a copolymer
2 of ethylene.

1 103.(new) The film according to claim 98, wherein the film is in the form of a crosslaminate.

1 104.(new) The film according to claim 98, wherein the film is in the form of a rope, twine or
2 woven-tape product.

1 105.(new) An extruded oriented film comprising:
2 a layer including:
3 a polymer alloy comprising:
4 a dispersion of microscopically fine fibrils of a polymer P1 surrounded by a

polymer P2,
where the fibrils extend substantially in one direction, have a thickness less than or equal to about 1 μ m, and a width at least 5 times its thickness,
where the polymer P1 and the polymer P2 are different and are at least partly crystalline at temperatures less than 100°C, and
where the polymer P2 in its unoriented state at 20°C exhibits a coefficient of elasticity (E1) which is at least 15% lower than a coefficient of elasticity (E2) of the polymer P1, and

locations of rupture of the polymer P1 fibrils,
where the locations of rupture extend in a substantially linear fashion across the film at an
angle to the direction of orientation of the fibrils and comprise the polymer P2.

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106.(new) The film according to claim 105, wherein the film further comprises a minor coextruded surface layer on at least one side of the alloy layer to enhance bonding properties and/or modify frictional properties of the film.

107.(new) The film according to claim 106, wherein the polymer P1 comprises polypropylene, polyamide or polyethylene terephthalate, and the polymer P2 comprises a propylene copolymer, or polyethylene.

1 108.(new) The film according to claim 107, wherein the polypropylene comprises a crystalline
2 copolymer of propylene.

1 109.(new) The film according to claim 107, wherein the polyethylene comprises a copolymer
2 of ethylene.

1 110.(new) The film according to claim 105, wherein the film is in the form of a crosslaminate.

1 111.(new) The film according to claim 105, wherein the film is in the form of a rope, twine or
2 woven-tape product.

1 112.(new) An extruded oriented film comprising:
2 a layer including:
3 a polymer alloy comprising:
4 a dispersion of microscopically fine fibrils of a polymer P1 surrounded by a
5 polymer P2,
6 where the fibrils extend substantially in one direction, have a thickness less
7 than or equal to about 1µm, a width at least 5 times the thickness, are flat and
8 are substantially parallel with the main surfaces of the film,
9 where the polymer P1 and the polymer P2 are different and are at least partly
10 crystalline at temperatures less than 100°C, and
11 where the polymer P2 in its unoriented state at 20°C exhibits a coefficient of
12 elasticity (E1) which is at least 15% lower than a coefficient of elasticity (E2)
13 of the polymer P1, and
14 locations of rupture of the polymer P1 fibrils,
15 where the locations of rupture extend in a substantially linear fashion across the film at an
16 angle to the direction of orientation of the fibrils and comprise the polymer P2.

1 113.(new) The film according to claim 112, wherein the film further comprises a minor
2 coextruded surface layer on at least one side of the alloy layer to enhance bonding properties and/or
3 modify frictional properties of the film.

1 114.(new) The film according to claim 113, wherein the polymer P1 comprises polypropylene,
2 polyamide or polyethylene terephthalate, and the polymer P2 comprises a propylene copolymer, or
3 polyethylene.

1 115.(new) The film according to claim 114, wherein the polypropylene comprises a crystalline
2 copolymer of propylene.

1 116.(new) The film according to claim 114, wherein the polyethylene comprises a copolymer
2 of ethylene.

1 117.(new) The film according to claim 112, wherein the film is in the form of a crosslaminate.

1 118.(new) The film according to claim 112, wherein the film is in the form of a rope, twine or
2 woven-tape product.